Bellwork: 2/25/13

Use the given factor and synthetic division to COMPLETELY FACTOR the given polynomial.

$(2x^3+11x^2-x-30)$ divided by $(x+2)$

-2 | 2 11 −1 −30

+ ↓ −4 −14 30

2 7 −15 | 0

$2x^2+7x-15$

$(2x-3)(x+5)$

$(2x-3)(x+5)(x+2)$

13) $x=-1, 3, 4$

$(x+1)(x-3)(x-4)$

$(x^2-2x-3)(x-4)$

$x^3-2x^2-3x-4x^2+8x+12$

$y=x^3-6x^2+5x+12$

16) $x = 4, 2, -3, 0$

$x(x-4)(x-2)(x+3)$

$x(x^2-6x+8)(x+3)$

$x(x^3-6x^2+8x+3x^2-18x+24)$

$x(x^3-3x^2-10x+24)$

$y = x^4-3x^3-10x^2+24x$

18) $2x^4+7x^3-11x^2+21x+5 \div (x+5)$

$$\begin{array}{r|rrrrr} -5 & 2 & 7 & -11 & 21 & 5 \\ + & \downarrow & -10 & 15 & -20 & -5 \\ \hline & 2 & -3 & 4 & 1 & 0 \end{array}$$

$2x^3-3x^2+4x+1$